ENVIRONMENTAL MANAGEMENT ADVISORY BOARD
to the
U.S. DEPARTMENT OF ENERGY

PUBLIC MEETING

MINUTES

James E. Forrestal Building - Washington, D.C.

April 13-14, 2000

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MEETING PARTICIPANTS

Board Members Present:
Dr. David Adelman, NRDC
Dr. John Ahearne, Sigma Xi
Dr. Lynn Anspaugh, University of Utah
Mr. John Applegate, Indiana University
Mr. Dennis Bechtel, Clark County Nevada
Mr. Joel Bennett, (EMAB Co-Chair), Parsons Brinckerhoff, Inc.
Dr. David Bodde, (EMAB Co-Chair), University of Missouri-Kansas City
Ms. Linda Christenson, ICFA
Hon. Richard Church, Mayor, Miamisburg, Ohio
Ms. Kathryn Crandall, Alliance for Nuclear Accountability
Dr. Teresa Fryberger, Brookhaven National Laboratory
Mr. Stanley Genega, Stone and Webster
Mr. Russell Jim, Yakama Indian Nation
Mr. Ken Korkia, Rocky Flats Citizens Advisory Board
Mr. Ron Kucera, Missouri Department of Natural Resources
Dr. Jeanne M. Logsdon, University of New Mexico
Mr. Todd Martin, Private Consultant
Mr. John Moran, Private Consultant
Dr. Frank Parker, Vanderbilt University
Dr. Glenn Paulson, Paulson and Cooper, Inc.
Dr. Paul Rambaut, Consultant
Mr. Tom Winston, Ohio EPA

Board Members Absent:
Dr. Edgar Berkey, Concurrent Technologies Corporation
Mr. Craig Hooks, U.S. EPA
Mr. Elliott P. Laws, Outlook Policy Forum, Inc.
Hon. Linda Milam, Mayor, Idaho Falls, Idaho
Mr. Ron Ross, Western Governors' Association
Mr. David Swindle, EG&G
Mr. Robert Wages, Vice President, PACE
Mr. Jim Woolford, U.S. EPA

Board Consultants Present:
Mr. Don Elisburg, Esq., Private Consultant
Mr. Thomas Isaacs, Lawrence Livermore National Laboratory
Ms. Lisa Ledwidge, Institute for Energy and Environmental Research
Dr. Leon Silver, California Institute of Technology

Department of Energy Participants:
Mr. Michael Barainca, Office of Science and Technology (EM-50)
Mr. Dan Berkovitz, Deputy Assistant Secretary for Policy, Planning and Budget (EM-10)
Mr. Gerald Boyd, Deputy Assistant Secretary for Science and Technology (EM-50)

Dr. Ker-Chi Chang, Office of Basic and Applied Science (EM-52)
Ms. Martha Crosland, Director, Office of Intergovernmental & Public Accountability (EM-11)
Dr. Michael Heeb, Office of Science and Technology (EM-50)
Mr. David Huizenga, Deputy Assistant Secretary for Integration and Disposition (EM-20)
Dr. Elizabeth Hocking, Argonne National Laboratory
Dr. Carolyn Huntoon, Assistant Secretary for Environmental Management
Mr. Joe Letourneau, Office of Basic and Applied Science (EM-52)
Mr. Ralph Lightner, Office of River Protection (EM-44)
Mr. James Melillo, Executive Director, EMAB
Mr. Chet Miller, Office of Basic and Applied Science (EM-52)
Dr. Clay Nichols, Idaho National Environmental Engineering Laboratory
Ms. Rosalyn Sands, Office of the Secretary of Energy Advisory Board (AB-1)
Mr. Randal Scott, Director, Office of Safety, Health and Security (EM-5)
Mr. John Serocki, Office of Safety, Health and Security (EM-5)
Mr. Jeff Short, Office of Long-term Stewardship (EM-51)
Ms. Claire Sink, Office of Science and Technology (EM-50)
Mr. James Turi, Associate Deputy Assistant Secretary, Office of Waste Management (EM-30)
Mr. James Werner, Director, Office of Long-term Stewardship (EM-51)
Mr. Brad Wright, Office of Environmental and Regulatory Analysis (EM-13)

EMAB Support Team:
Ms. Peggie Burke, Coleman Research Corporation
Ms. Regina Creighton-Bey, Coleman Research Corporation
Ms. Michelle Lynar, Coleman Research Corporation
Mr. Michael Pfister, Coleman Research Corporation
Mr. Kenneth Smith, Coleman Research Corporation
Ms. Kimberly Stewart, Coleman Research Corporation

Other Participants:
Mr. Jim Carter, Envirocare
Mr. Harry Compton, U.S. Environmental Protection Agency
Mr. David Levenstein, U.S. Environmental Protection Agency
Mr. Bill Loveless, Inside Energy
Ms. Kieran McCarthy, CRESP
Ms. Nane Peters, Yakama Indian Nation
Mr. Mathew Quint, Embassy of Australia
Mr. Shawn Terry, Inside Energy
Mr. Alex Thromer, UETC
Mr. Mike Wilson, Washington State Department of Ecology

LIST OF ACRONYMS

Acronym	Definition	Acronym	Definition
ASME	American Society of Mechanical Engineers	I&T	Integration and Transprotation
BNFL	British Nuclear Fuel Laboratory	LTS	Long-term Stewardship
C&M	Contracting and Management	NIOSH	National Institute for Occupational Safety and Health
D&D	Decommission and Deactivation	NCI	Nuclear Cities Initiative
EM	Environmental Management	OMB	Offce of Management and Budget
EMAB	Environmental Management Advisory Board	ORP	Office of River Protection
EM-50	Office of Science and Tecnology	OST	Office of Science and Technology
EMSP	Environmental Management Science Program	R&D	Research and Development
FA	Focus Area		
FEMP	Fernald Environmental Management Project	S&M	Surveillance and Maintenance
HQ	Headquarters	SRS	Savannah River Site
INEEL	Idaho National Engineering and Environmental Laboratory	S&T	Science and Technology
IP	International Program	TD&T	Technology Development and Transfere
ISM	Integrated Safety Management	WH&S	Worker Health and Safety

APRIL 13, 2000

Opening Remarks

Dr. Bodde, Co-chair of the Environmental Management Advisory Board (EMAB), called the meeting to order at 1:15pm. He introduced new members Dr. Paul Rambaut, previously of the State Department and now a private consultant; Mr. Stanley Genega, previously with the Army Corps Engineers and now with Stone and Webster; Todd Martin, Consultant; Ms. Kathryn Crandall, Alliance for Nuclear Accountability; Dr. David Adelman, Natural Resources Defense Council; Dr. Jeanne Logsdon, University of New Mexico; and Dr. Teresa Fryberger, Brookhaven National Laboratory. He also welcomed Ms. Agnes Dover, who was scheduled to present the briefing for Mr. Dave Swindle, Chair of the Contracting and Management (C&M) Committee, and Mr. Dennis Bechtel, who was scheduled to present the briefing for Dr. Ed Berkey, Chair of the Technology, Development and Transfer (TD&T) Committee. Mr. Joel Bennett was welcomed to his first meeting as the new EMAB Co-chair.

Dr. Bodde stated he would chair the session on April 13th that would include reports on committee activities, and Mr. Bennett would chair the April 14th session that would include an overview on science, voting on recommendations, and board discussion. Dr. Bodde then called for a motion to approve the minute from the September 22-23, 1999 meeting. The minutes were approved as written.

Remarks by Assistant Secretary Huntoon

Dr. Huntoon opened by thanking the Board for its support in the areas of Health and Safety, Project Management, and Science. She stated that the issue of Safety has been a top priority for EM and she has not attended one meeting this year where safety was not mentioned. Specifically, Dr. Huntoon mentioned publication of her memorandum on Safety and Health Guidelines, and the publication by EM-5 of the "EM Pocket Safety Guide for Managers." She stated she encourages managers to evaluate their projects and look at ways to improve safety. Safety walk-throughs have been initiated for various projects to develop data for the safety profile documents. In reviewing the Site Safety Profiles and the data collected when running a safety profile, she indicated she can determine from the data if further action is needed or if she needs to discuss safety issue with site managers. Dr. Huntoon noted that she appreciated the work being accomplished on the site visits by the EMAB Worker Health and Safety (WH&S) and C&M committees.

The second area Dr. Huntoon discussed was Project Management. She stated that substantial progress has been made in this area, but that there was still much to be done. There has been a development of comprehensive project lists throughout the Department. EM is in the process of identifying those projects that will be reviewed by the Deputy Secretary. Dr. Huntoon indicated that EM will conduct quarterly reviews of major projects to ensure that critical path schedules are being maintained. She noted that EM is working with Clair Gill, Director of the Office of Engineering and Construction Management, to promote improvements in project management.

Dr. Huntoon stated that she has tried to emphasize the importance of Science and Technology (S&T). She noted that a Laboratory Management Team had been created to help provide oversight for the four EM laboratories. She also indicated that the Office of Science and Technology (EM-50) had formed Deployment Assistance Teams to help with near term assessments of environmental situations. As an example, the Deployment Assistant Team brought together experts to conduct an assessment of the Pantex ground water contamination problem on an urgent basis for the Secretary. The Team followed up the assessment with a report which served as the basis for corrective action.

Dr. Huntoon stated that she was disappointed with the budget results that were received from the Hill. The Science and Technology budget was cut and she noted that the cuts were not a reflection of her emphasis on S&T. She believes that the cut resulted from OMB's attempt to level-out the budget and noted that EM is pushing for higher numbers in next year's budget.

To heighten awareness of the importance of Science and Technology for Congress, Dr. Huntoon told the Board that EM had conducted an exhibit in the Reagan Building titled "Strength Through Science, Cutting Edge Technology Solutions for the Nation's Environmental Clean-Up." It was very successful; many of the staffers, Congressman and a few Senators came through and allowed the group to tell them about technologies used in the EM cleanup initiative. Representative Hastings from Washington, head of the Nuclear Waste Caucus, sponsored the project and was so impressed by the response that he wants to do it again next year. Dr. Huntoon stated that there are plans do something of this nature on the Senate side and for DOE next year, so that people will be aware of the technologies being used.

Dr. John Ahearne asked if EM was involved in the Secretary's recent decision to announce the Department's active support for the examination of past exposure problems. He indicated that the results of these activities could be used to establish various standards for subsequent EM actions. Dr. Huntoon affirmed that EM has been working with Assistant Secretary David Michael's staff (the Office of Environment, Safety and Health), which had the lead, and that EM has been supplying information and will continue to actively cooperate in this area.

Mr. Russell Jim asked if any studies were being done on the subject of off-site population exposure. Dr. Huntoon replied that some had been done but stated that Dr. Michaels could best answer questions on this subject.

Dr. Frank Parker inquired about the Science budget cut. Dr. Huntoon stated that one reason EM's science budget was cut was because not too many people know the type of science and technology

that is done in EM. Many look upon EM as a clean-up office. She indicated that she staged the Technology Fair to acquaint people with the important science and technology work that EM is doing.

Budget Update

Mr. Berkovitz, Deputy Assistant Secretary for Policy, Planning, and Budget, addressed the Board on the 2001 EM budget request and the EM Budget in the perspective of the National Budget. He briefly described the scope of EM cleanup responsibilities including cleanup and disposition of contaminated material by waste stream and the decontamination and decommissioning and disposition of contaminated land and facilities. He pointed out that for the past few years, the EM budget has remained flat (around $5.6 - $5.7 billion of traditional budget authority) and that EM is pleased with the budget request for FY 2001 of approximately $6.3 billion.

Mr. Berkovitz indicated that the President's proposed budget for FY 2001 is $1,835 billion. He gave a break down of the budget in terms of mandatory outlays, Defense earmarks, Science and non-Defense Discretionary budget authority, and debt servicing. After a brief discussion of the DOE budget, Mr. Berkovitz focused on the EM portion of DOE's budget request. Highlights include:

- Continue plan implementations for closure of Rocky Flats, Miamisburg, and Mound sites by 2006.
- Accelerate cleanup at the Gaseous Diffusion Plants in Portsmouth, Ohio and Paducah, KY and respond to findings contained in DOE's recent self assessment of these sites.
- Continue construction of the HLW retrieval and transfer system and the HLW vitrification plant at Hanford.
- Increase waste shipment to WIPP.
- Complete EM cleanup of Argonne National Lab-West, Grand Junction Site, and Monticello.

Mr. Berkovitz stated that the EM budget program focus was to: ensure safety, reduce risk, effectively use taxpayer dollars, meet EM commitments, accelerate work across the complex, improve the use of science and technology, involve the public, and plan for long-term stewardship. He provided an overview of the five EM Appropriation Accounts and specific items contained in each area.

Mr. Berkovitz noted that performance measures were submitted with the 2001 budget. He observed that the performance measures were rather generic and that EM hoped to sharpen and refine them in future submissions. The goal is more project specific measures that reflect what goals the managers of a project are managing against, what their performance measures are for their contractors, and what they're basing the fee award on. This will give others an idea of the progress being made in the clean-up process. These measures will supplement but not replace the existing corporate performance measures, and give a more accurate picture of the progress being made.

In a supplemental briefing, Mr. Berkovitz talked about the DOE and EM budgets in the context of Federal budget projections over the next ten years. While emphasizing that various factors can alter the budget, he was cautiously optimistic that the traditional EM annual allocation would remain steady and the privatization accounts would increase slightly over the first decade of the new century. He noted that the Federal Government was planning to "buy down" the national debt and subsequently make more money available for other programs in the out years. He cautioned, however, against undue optimism, noting that a change in the economy could make all projections invalid.

Ms. Agnes Dover asked why privatization initiatives were a separate item in the budget. Mr Berkovitz explained that because the rate of spending for privatization accounts is different from traditional budget spending, and is "scored" differently by the Budget Office, a separate funding category or line item is created for these accounts.

Mayor Church asked about budget and appropriated funds for Mound. He stated that Mound was initially budgeted for cleanup by 2004, and subsequently changed to cleanup by 2006. After being briefed on the FY 2001 budget a few days ago, he noted that EM is now budgeting closure of these site out to 2009. His concern is that if EM does not start showing results, the appropriation from Congress will decrease. Mr. Berkovitz accepted the validity of his concern and stated that it was a point well taken.

Dr. John Ahearne asked Mr. Berkovitz to explain the term "reduce risk," and to indicate who was responsible for the depleted uranium recovered during the D&D of former enrichment facilities. Mr. Berkovitz stated that right now depleted uranium is handled in the Office of Nuclear Energy and he was not sure whether that would change in the near future. Regarding risk, he stated that in the past EM had tried, with EMAB's help, to look at risk globally. Because this was unsuccessful, EM's current approach is to look at risk on a site by site basis.

Mr. Martin asked what would happen to the funds in the privatization account for Hanford if DOE decides not accept the recently announced BNFL contract proposal. He also asked for an explanation of Congressional Budget Office changes in "scoring" for Privatization funds. Regarding the scoring of funds, Mr. Berkovitz explained how the spending rate affects the scoring of a project, and noted that in fact the CBO would score Privatization differently from past budgets based on accelerated spending projections. Regarding what happens to funds in the Privatization account, Mr. Berkovitz indicated that they were earmarked for a specific purpose but that with Congressional approval, they could be reprogrammed at the Departmental level or by direct Congressional action. However, he noted that unspent funds do not automatically revert to the Treasury.

Worker Health and Safety

Dr. Bodde noted that the upcoming report was a joint committee product and thanked the participants for their collaborative efforts. He acknowledged Gerald Boyd, Deputy Assistant Secretary for Science and Technology; Randy Scott, Director, Office of Safety, Health and Security; and Jim Werner, Director of the Office of Long-term Stewardship.

Dr. Glenn Paulson, Co-chair of the Worker Health and Safety Committee, reminded the Board that in October 1996, then Assistant Secretary of Environmental Management Al Alm made three points regarding safety: EM must ensure that worker safety was meaningful; walk-throughs at the sites are key; and EM should develop indicators that would measure performance. Dr. Paulson indicated that he was please to see that these ideas were coming to fruition. He praised the EM-5 produced Worker Health and Safety "Walk-through Guide" for its excellence and predicted it would accelerate the progress being made in health and safety issues.

Mr. John Moran, Co-chair of the Worker Health and Safety Committee, provided an overview of topics to be discussed. He noted that the Worker Health and Safety Committee had participated in a tri-committee effort on the Office of Science and Technology (OST) program. The Committee also participated in a bilateral effort with the Contracting and Management Committee, which involved information gathering trips to the Hanford and Savannah River sites.

Occupational Health and Safety in OST

The tri-committee look at safety practices in the technology development process of the Office of Science and Technology included meetings with the Focus Area (FA) leads in Morgantown (D&D FA) and Savannah River (Subsurface FA). Mr. Moran stated that both meetings were helpful and constructive; participants explored current practices and the development of projects that might enhance and facilitate attention to safety and health.

Mr. Moran noted that the report which accompanied the briefing was not an evaluation of OST programs, but contained initial observations based on discussion from the September board meeting. He stated that the OST program is far more advanced in addressing safety and health hazards associated with new remediation technologies than any of its Federal peers. He observed that for major process technologies, safety and health is assessed primarily during the demonstration phase at the end of the development pipeline and that both Focus Areas examined have specific guidelines for assessments. Focus Area guidelines also have specific requirements for cost documentation, which is a major determinant in the fielding of new technologies.

Mr. Moran stated the streamlined technology deployment review process established by EM-50 requires ASME peer review and has a limited safety and health dimension. He noted that OST has funded a cooperative agreement which for the last four years had a specific mandate to look at human factors of safety and health issues. He also mentioned National Research Council reports which provide criteria for the risk-based remediation processes, but noted that specific requirements for safety and health assessment are not included in these reports. Mr. Moran demonstrated through examples how innovative technologies can be penalized in the current development process-- even though they may be better and safer technologies-- because occupational safety and health costs are not considered in the total technology evaluation.

The Committee recommended that EM/DOE:

- Provide safety and health guideline/checklists to the DOE developer community to stimulate thinking about safety and health requirements.
- Provide guidance for consideration of safety and health matters in the ASME peer review process.
- Develop guidance for inclusion of safety and health considerations in the streamlined "Stage Gate" process.
- Require a technology safety data sheet for every technology starting at the mid-stage review.
- Consider approaches to including safety and health compliance costs and technology cost performance data in technology selection considerations.
- Encourage identification of safe technologies and disseminate information about them.
- Initiate a heat stress management program, and coordinate with NIOSH in development initiatives.
- Develop contract language that promotes use of new technologies.

Mr. Moran suggested formation of a small working group drawn from the three participating Committees (TD&T, C&M and WH&S) to work with OST and the Office of Security, Safety and Health to explore suggestions made by the Committee.

Dr. Bodde acknowledged the presence of Don Elisburg, a member of the WH&S Committee and a participant in the report preparation.

Mr. Winston applauded the joint cooperation of the Committees. He asked Mr. Moran to clarify the suggestion regarding contract language development. Mr. Moran stated that getting new technologies deployed is a major problem. He suggested that EM could require the contractor to use new technologies or technologies unique to the EM mission and ultimately could save money. Ms. Dover suggested that a broad incentive fee for new technology deployment would work in areas where specific technology requirements were unknown when the contract was drafted.

Mr. Ken Korkia asked what approach is used to match existing technologies to new problems or to formulate a technology requirement statement to solve a new problem. Mr. Moran stated that this is a responsibility of the Focus Areas and that the system works well for large process technologies. He noted that Focus Areas sometimes encounter problems identifying customers for technologies with potential multi-site applications. Mr. Boyd commented that the Focus Areas had made considerable progress in systematizing the manner in which they match technologies and technology requirements with customer needs, but that more work needed to be done.

Integrated Safety Management Implementation

The Worker Health and Safety Committee and the Contracting and Management Committee made site visits to Savannah River Site (SRS)on January 12-13 and to the Hanford site on March 8-9. The purpose of the visits was to explore how Integrated Safety Management (ISM) is being implemented at the site level. The Worker Health and Safety Committee members were specifically interested in how ISM implementation was progressing. The Contracting and

Management Committee members focused on the role of contract clauses in promoting safety and health, and also looked at the status of project management at the sites. The joint team met in separate sessions with both federal and contractor management and with union and non-union workers in compiling their information.

Mr. Moran noted that the SRS and Hanford sites are similar in some respects -- they are among the largest in the complex and have the most diverse range of on-going work -- but unique in other respects. The SRS safety culture is strengthened by the heritage of Duponts's long-term presence, its strong emphasis on safety and its early involvement in the developmental and pilot stages of ISM. Hanford does not have this advantage. He concluded that ISM implementation at SRS under the current contractor, Westinghouse, was proceeding well.

As an indication of the integration of safety into the SRS culture, Mr. Moran noted that the SRS application for DOE VPP status, with top rating denied in 1999 because worker participation was not up to par, stimulated worker-level efforts for improvement for the 2000 submission. Mr. Moran noted that ISM gave the workers an opportunity to contribute to their own safety situation and was well supported at SRS.

Mr. Moran noted that Hanford, by contrast, is undergoing significant turmoil in both the DOE management and contractor areas. He specifically applauded the efforts of Mr. Keith Kline and his subordinates in promoting safety and ISM through overt actions. Mr. Moran also noted Hanford site advances in developing better worker/management communication. He concluded that in the implementation of ISM, SRS is further along than Hanford, but that Hanford is on the right track and will make the September implementation deadline although not without some difficulty. He noted that a concern among workers at both sites was that ISM was "a flavor of the month" activity and urged transition from an implementation phase to maintenance of ISM.

In addition to urging that ISM implementation "Lessons Learned" be shared among sites across the complex, Mr. Moran noted that the creation of EM-5 was a positive step by the Assistant Secretary. He predicted that the office would increase its influence as it matured and as linkages with the sites became fully functional.

Mr. Moran gave an overview of the Committees' findings on the status of ISM implementation:

- Through "leading by example," Assistant Secretary Huntoon is making safety across the EM complex a reality.
- The quality of safety and health training among both Federal and contractor project managers varied widely, but both sites were moving to overcome deficiencies in this area.
- Developing and supporting an office responsible for safety and health is a significant step.
- Use of the DEAR clause and the flow-down of safety requirements to subcontractors are areas where improvements are needed.

Mr. Moran concluded that EM had made substantial progress in implementing ISM and that a by-product of the process, particularly at Hanford, was a clarification of the roles of Federal project managers and contractors. He called for continued attention to ISM as the program moved from

initial implementation to a maintenance phase, and concluded by pointing out that the involvement of the Assistant Secretary in safety was being emulated by site managers, resulting in better safety awareness across the complex.

Ms. Agnes Dover presented information for the Contracting and Management Committee in the absence of the Committee Chair, Mr. David Swindle. She stated that the C&M Committee explored ways to incentivize safe work practices through contract incentives. She noted that there is variation across the complex on how safety is implemented through contracts and that the contract language is important. Ms. Dover cautioned that appropriate contract incentives were but one aspect of safety implementation. She stated that an involved and concerned work force and good management enforcement of contracts were important aspects of promoting safety through contract clauses.

Ms. Dover said that another area of concern identified by the joint committee was unclear roles and responsibilities of project managers at the sites. She believes that Hanford is on the right track in clarifying roles and responsibilities, adopting the concept that Federal project managers manage the contract and the contractor project managers manage the actual work being done. Another concern identified by the joint committee was that Hanford workers frequently moved between facilities operated by different companies, without uniform safety training and requirements.

Both Ms. Dover and Mr. Moran expressed concern about safety challenges resulting from the Tank Waste (BNFL) Contract, creation of the Office of River Protection (ORP), and the special regulatory office for the ORP at the Hanford Field Office.

Mr. Russell Jim stated that there is a lack of sensitivity by contractors for the Native American Communities around the sites, and the input from the Native American sector may be needed to resolve many issue. He emphasized that contractors have an obligation to the people in and around the areas where they work.

Dr. Jeanne Logsdon asked if accident and safety violation data was available by year and by contractor and subcontractor. She also wondered if data regarding incentives was available. Mr. Moran informed her that this data is available, and most of the incidents seem to take place with the front line workers. He added that this was largely due to the lack of the worker participation in safety and health practices, but also noted that the statistics were coming down.

In response to a comment from Dr. Paulson, Mr. Scott described EM-5 developmental efforts regarding safety profiles. While accepting that EM had a better safety record for industrial categories than industries outside the Federal government, he stated that he was trying to make a good situation even better. Mr. Moran indicated the need for development of leading indicators as a key to preventing accidents.
Following a short break, Dr. Bodde reconvened the meeting.

Contracting and Management

Ms. Agnes Dover, presented a briefing on the Committee's current activities and focus. Because of the prior discussion on the joint venture with the Worker Health and Safety Committee, she moved to the topic of project management.

Project Management Initiative

Ms. Dover stated that the Committee's objective was to provide the Assistant Secretary through the Office of Project Management (EM-6) recommendations regarding project management in EM. The Committee's focus was on roles and responsibilities of project managers and on their training. The Committee noted that the roles and responsibilities of both Federal and Contract program managers are often not clearly defined. The Committee also concluded that there does not seem to be a systematic process in EM for identifying and selecting qualified project and program managers. The Committee members believe that EM might explore a program manager career path such as that utilized by the Army Corps of Engineers.

Committee recommendations to establish a stronger project and program management process include:

- Establishing a program/project manager career path in EM and using it as a vehicle to establish clear roles and responsibilities for program and project mangers.
- Developing criteria for the selection of program managers and methods for retaining managers with the appropriate expertise.
- Supporting a certification program or similar qualification criteria for EM program managers. Such a program should "grandfather" current qualified program managers.
- Establishing a program that demands accountability but rewards successful management performance.

Shared Savings Initiative

Ms. Dover noted that the Shared Savings initiative is one that the Committee has been exploring for some time. She defined shared savings as a program where the contractor assumes the up front cost for stabilizing a contaminated facility which requires Federal Surveillance and Maintenance (S&M) funding, and is compensated with the savings achieved over a period of years by reduced S&M costs. She stressed that this is not a mini-privatization project, but an initiative that could work with the existing budget.

Ms. Dover observed that the Committee's focus has been on five main factors in exploring Shared Savings: feasibility, practicality, benefits, risk to EM, and implementation requirements and impediments. She noted that DOE has had success with the shared saving concept and used FEMP as an example.

Ms. Dover stressed that S&M costs are "perpetual burdens" with which the Department is saddled and which divert more than $1 billion dollars annually from clean-up activities.

She also noted that starting in 2002, EM would received from other DOE elements additional facilities for remediation and disposal.

The Committee recommends that EM pursue adoption of a shared savings concept and suggests evaluation of the concept through a pilot project funded in the 2001 budget. Ms. Dover stated one issue discussed by the committee was the implications of the Anti-Deficiency Act for shared savings. The Committee recommends a modest pilot project which would not require Congressional legislation to demonstrate the validity and effectiveness of the concept.

Ms. Dover announced that the Contracting and Management Committee would continue to work with EM-6 on project management issues, would support EM-20 shared savings initiatives, and would participate in trips with the WH&S Committee to INEEL. Mr. Stanley Genega observed that having a strong background in project management as a result of both his Army Corps of Engineers service and as a DOE contractor, he strongly supported the effort to institute project management in DOE. He cautioned, however, that it would take many years to achieve such a dramatic change in the EM/DOE culture.

Shared Savings Report

Mr. David Huizenga, Deputy Assistant Secretary for Integration and Disposition (EM-20), gave an update on the shared savings initiative. He stated that Dr. Huntoon had approved a shared savings pilot program similar to what the C&M committee recommended. Based on EM-1 guidance to locate a well-characterized facility, the EM staff located a candidate pilot facility at Hanford in the 300 series area, and would be providing Dr. Huntoon a status briefing in the near future.

Following a brief discussion on funding with Ms. Dover, Mr. Huizenga noted that he would explore that issue of legislation with the Office of the General Counsel. He stated that he had briefed the Deputy Secretary and the Under Secretary on the concept. He further noted that the pilot project under consideration required approximately $6 million in annual S&M costs, and EM hoped that a $25 – $30 million D&D project would reduce annual S&M costs to $200,000.

Mr. Applegate asked if the shared savings concept were applicable to Long-term Stewardship funding problems, and also asked the C&M Committee to keep this in mind for joint efforts with the LTS Committee in the future.

Dr. Bodde asked if the Committee would continue its efforts on contractual incentives for technology development and deployment. Ms. Dover indicated that the Committee would continue this work with the WH&S Committee and asked if Dr. Bodde had any other work areas for Committee consideration.

Mayor Church read a statement from the Energy Community Alliance (ECA) regarding economic development funding for communities located near cleanup sites. He noted that

economic development clauses were removed from contracts under negotiation, and that funds were not being obligated to support existing agreements. Lack of prior consultation was an issue with ECA members. Mr. Church suggested that this issue might be suitable for the C&M Committee to examine.

Long-Term Stewardship

Mr. Applegate outlined three areas for discussion: future cooperative ventures with the Science Committee, a resolution entitled "Next Steps for Stewardship," and a resolution on Institutional Controls. He noted that Mr. Tom Winston had agreed to Co-Chair the Committee.

EM Office of Science and Technology

Mr. Applegate noted that the Committee had been working with the Science Committee to examine basic science needs which effectively support LTS and promote development of ways to improve clean up instead of accepting the status quo of storing waste. A second common concern involves creation of an infrastructure to support LTS activities in the future. He noted that the Committees would continue to jointly develop these topics.

Mr. Winston directed the Board's attention to findings and resolutions prepared by the Committee. He reminded the Board of the Committee's goals of raising awareness about Long-term Stewardship issues, and of helping EM address LTS problems. He added a third goal of providing some degree of permanence for the EM LTS program.

On behalf of the Committee, Mr. Winston complemented EM on the advances it had made in promoting Long-term Stewardship awareness, and on the creation of a separate Long-Term Stewardship Office. To capitalize on these accomplishments, the Committee urges EM to initiate extensive Long-term Stewardship planning. Further, the Committee recommends that:

- EM promulgate a policy that requires sites to plan and implement LTS.
- DOE establish a distinct budget authority for LTS at the headquarters level.
- DOE/EM establish both at Headquarters and in the field LTS offices that are able to direct the long-term stewardship program
- EM conduct adequate outreach on LTS issues with state, local and Tribal governments, and the general public.

Mr. Winston noted that elected local government officials and Tribal representatives were concerned about government to government issues that play an important part in Long-term Stewardship.
Ms. Dover asked about the advantage to having a separate budget authority for Long-term Stewardship. Mr. Winston stated that it makes it more visible and more prone for cuts, but it also lends transparency to the program and its accomplishments. He then deferred to Mr. Jim Werner for further explanation.

Mr. Werner stated that the recommendation addressed two different funding needs, one for HQ activities and the other for field activities. He noted that the DOE budgeting rules were recently

changed and that HQ no longer funds activities in the field. He did, however, agree with Mr. Winston's concern about the need for greater accountability in the LTS program to ensure that money earmarked for LTS activities was being appropriately spent. Mr. Applegate stated that in addition to accountability, the Committee was concerned about the absence of a funding mechanism for LTS activities in the future. Mr. Werner stated that there were some investment accounts at completed sites already in place, but he could not state that the interest from these accounts would be able to sustain projects indefinitely.

Dr. Bodde asked for an explanation of the division of activities and responsibilities between a centralized LTS office and field organizations within the context of the recommendation of the committee to "Empower a central office for LTS with responsibility and authority." Mr. Winston responded that for LTS to succeed, there needed to be both a headquarters and a field component, but that the Committee could not determine what was an appropriate balance. He indicated that the Committee found it difficult to ascertain, especially in the field, who was responsible for LTS planning and functions. Mr. Bennett suggested that the resolution be reworded to clarify its intent. Mr. Applegate stated that the Committee could reexamine its recommendation but reiterated the concern that while many seemed to have nominal responsibility for LTS, no one seemed to have real responsibility. Mr. Werner noted that many field organizations were focused on the near-term cleanup goal as opposed to the longer-term stewardship mission.

Dr. David Adelman stated that beyond accountability and transparency is the institutionalization of LTS, and the institutional basis become a priority when you set-up a separate office. Mr. Winston stated that the Committee had given a lot of thought to this recommendation and the terms separate entity, accountability, and transparency give the recommendation more strength. After some extended discussion, the Board deferred further action on the topic until the formal consideration of the resolution during "Board Business."

Institutional Controls

Mr. Applegate then addressed the resolution and Committee Report on Institutional Controls. He noted a government wide trend to rely on institutional controls to safeguard the public but expressed concern that institutional controls have not been demonstrated to be effective over the long term. He described four scenarios or settings where institutional controls would be required, and indicated that the Committee's effort focused primarily on a scenario where Federal land would be sold or given away (as opposed to being retained, being leased, or being returned to trust arrangements). He referred to a report titled "Background Information," which accompanied the resolution on institutional controls.

Mr. Applegate stated that the resolution focused on three central themes:

- Perform life-cycle cost accounting to include remediation and long term institutional and physical controls. Of particular concern is that such accounting does not use discount rates that have the effect of eliminating future costs from consideration. The Committee believes that EM needs to begin planning for future LTS costs in the near term. LTS activities and associated costs must be a part of current remediation planning.

- Perform an analysis of the effectiveness and reliability of institutional controls. The report contains seven criteria that might be used in this analysis.

- Create an infrastructure to support LTS activities. This infrastructure includes: evaluating the ability of public and private institutions to implement institutional controls; periodic reviews to evaluate the effectiveness of controls; contingency plans for failure of these controls; public access to LTS data; and a training program for EM managers on the creation, maintenance, and monitoring of institutional controls.

In response to a question from Dr. Paul Rambaut about the definition of "long-term," Mr. Applegate stated that DOE used "long-term" to mean the period after closure, or the next generation. He indicated that the Committee had not resolved the issue of how to deal with the "longer" term.

In response to a question from Dr. Adelman regarding either using discount rates or not using them, Mr. Applegate acknowledged that the Committee deliberately chose a middle ground to prevent future long-term stewardship costs from either vanishing or from being set too high. Dr. Bodde noted that committee approach established a qualitative management tool to help distinguish one program from another. Mr. Applegate indicated that while the Committee did not have a firm methodology for costing, that its members believed the issue of life-cycle costs needed to be addressed. Mr. Werner gave an overview on the methodology used on the life-cycle cost at Hanford, and indicated that he believed the Committee was attempting to develop data that already existed.

Mr. Jim stated that despite predictions about what types of government and institutions would not exist in 25,000 years, that the Yakama culture had already existed for thousands of years and he then called for a holistic approach to cleanup. He acknowledged the dichotomy between near-term cleanup and costs. Mr. Applegate noted that these views have been strongly expressed by Mr. Jim in previous meetings.

Technology Development and Transfer

EM Science and Technology Performance Measures

Mr. Dennis Bechtel, a member of the Technology Development and Transfer Committee presented a report for Committee Chairman Dr. Edgar Berkey. Mr. Bechtel stated that EMAB has encouraged the development of Science and Technology performance measures since 1997 and reviewed the Committee's subsequent involvement with this topic. He noted that the Board was asked to review EM's Implementation Plan for Corporate S&T performance measures and the TD&T Committee formed a Team for this review. The four measures under review were:

- Increase technology value through deployment.
- Meet high-priority needs.
- Reduce technological risks.

· Reduce clean-up costs.

The Team was pleased to see that EM management is focusing attention on development and implementation of S&T performance measures. Mr. Bechtel noted that the Committee previously endorsed the plan to implement (pilot) corporate S&T performance measures at two sites. He also noted that the Committee was disappointed that it had not seen adequate progress in the development of performance measures for the other EM program offices.

Mr. Bechtel stated that the Committee continues to be concerned that cost savings resulting from OST investments (use of innovative technologies) are not being fully reported. The Committee believes that EM should continue to promote the implementation of the performance measures as a vehicle for evaluating successful mission performance.

Mr. Bechtel reviewed the Committee's recommendations:

1. The Assistant Secretary should continue to support implementation of Corporate S&T performance measures.
2. Prototype implementation of the corporate S&T performance measures on two sites should not significantly delay full development of EM program office performance measures and EM-wide implementation.
3. The issue of under-reporting cost savings should be addressed and resolved because under-reporting leads to program vulnerabilities.

Mr. Winston asked if there was a reason why cost savings were not being reported, and if it was a problem of data management or lack of field office reporting. Mr. Bechtel stated that part of the problem is the definition of cost savings/avoidance and the lack of a universal methodology to calculate cost savings. Another factor is that some sites believe that their budgets may be cut if the site reports savings.

Dr. Fryberger asked if the Science and Technology measures are EM-wide or simply OST measures. Mr. Boyd replied that they are intended to be EM measures and EM has bought into the measures and is held accountable for them. He said the next step is to develop the right metrics for these measures and to get them implemented.

Dr. Parker inquired about the utility to EM of metrics such as the "R&D 100 Awards," many of which are won by EM projects. Mr. Boyd stated that awards, papers published, peer reviews, etc., are all good indicators but are focused on R&D activities and do not accurately reflect the performance of the rest of the organization.

Dr. Paulson stated he was troubled by the cost savings issue. He suggested that people who reported deployments should be brought together and the savings from those reported deployments should be aggregated. He suggested conservative estimates when firm savings numbers could not be validated and projections were used. Mr. Boyd responded that OST does estimate and project savings but deriving a number the Corporate organization will stand behind is not easy. He said that deployment of a technology in and of itself is not the only action that results in savings and that . project managers don't want to try and categorize what was saved and

how it was saved. Mr. Boyd noted that EM does have estimates, and that it does seem the process should be simple, but that EM had to be careful not to focus attention only on saving money and risk losing sight of other factors such as safety. Dr. Paulson acknowledged the complexities of cost reporting but reasoned the political values of calculating aggregate savings through deployments should make it worthwhile.

Dr. Bodde reviewed items in the meeting book for Board attention, including Mr. Costner's report on the sun-setting of the Accelerated Closure Committee, and the decision on holding Board meetings in the field.

Mr. Bennett introduced two questions for discussion the next day.

- The lack of sufficient funding received for the EM Science and Technology program is a matter of great concern. How do we create a portfolio of science and technology projects (appropriately balanced between basic and applied research, development, demonstration, and deployment) which will be adequately funded and assure the long-term accomplishment of the EM mission?

- Are we [EM] taking full advantage of available scientific resources worldwide to economically and effectively solve our science needs?

Public Comments

Dr. Bodde opened the floor for public comment and added that there would be two sessions for public comment the following day. There were no public comments.

The Board adjourned at 5:30 p.m. for the day.

APRIL 14, 2000

Opening Remarks

The meeting opened at 8:50 a.m. in the Forestall Building, Room 1E-245. Mr. Bennett apologized for the late start which was due to heightened security at the Forestall Building. He gave a brief overview of the agenda and moved to the first order of business, which was an open discussion on Science. He asked for full participation from the members, so that the Board might obtain some direction and solutions to solve some of the difficult challenges the EM Science and Technology programs face.

Board Discussion

Mr. Genega asked if the science problem existed in the building or with Congress. Mr. Boyd responded that Congress has never cut the budget for S&T and that Dr. Huntoon did not support the OMB initiated cut in the 2000 science budget. He stated that the EM budget in the past has been flat and that science and technology are seen as a discretionary item and noted that the decline in S&T funding in EM is mostly due to short term pressures (e.g., funding for compliance agreements) which garner more budgetary attention. Mr. Bennett noted that the "problem" seems to be that EM has not presented a compelling argument for the S&T program.

Dr. Fryberger stated that OST focuses too much on technology development and deployment and cost savings and is using the wrong arguments for support. She opined that OST should focus on developing the technical basis for new technologies and shift the burden for deployment and cost savings calculations to the field. She noted that the dilemma wasn't really calculating cost savings. It's how to get the job done.

Mr. Isaacs stated the EM program has many, very difficult, boundary conditions on it, not all of which are related to S&T. He stated that EM needs a motivated problem holder interested in finding new ways to solve difficult problems and noted that some believe that there is sufficient technology to resolve current and future clean-up challenges. Mr. Isaacs stated that for EM to be successful, it needs a science program that effects results – one that produces good science for the sake of science (i.e., building fundamental knowledge).

He noted that the EM Science Program (EMSP) is not enough. He suggested that the solution was to find a way for scientists at the universities and laboratories to work hand-in-hand with technical companies which have the capabilities to demonstrate and field new technologies, and to then work with the people who own the sites and motivate them to use innovative science and technology. Dr. Fryberger reiterated her belief that sites should be held responsible for technology deployment and calculation of cost savings.

Dr. Frank Parker, Chair of the Science Committee, used LTS as a vehicle to explains his views on the issue. He noted that stewardship cannot be done without talking about science and technology remedies, because the two are totally interrelated and all sites will end up in a state of stewardship. He said that part of the reason for declining fiscal resources for science is because EM has not made a good case for the kinds of things that have been done and can be done. He reiterated his belief that EM needs to be more specific in terms of requirements to get the science and technology people more motivated. He stated that EM needs to put a stronger emphasis on data collection and noted that the only place that he could find LTS data being gathered was by the Long-term Surveillance and Maintenance Group at the Grand Junction site – and he had no evidence that the Group was using it for any predictive work.

Dr. Parker noted that the current regulatory requirements use approved technologies, yet DOE says it needs new science and technology. One problem is all near term science and technology spending has to come from existing resources and there is competition for those resources. Another problem is that DOE tends to aggregate problems into a "one size fits all" scenario, but knows that LTS will require multiple solutions depending on the type of contamination and its location. Dr. Parker urged the Board to approach LTS problems discreetly, in a manner similar to DOE's approach to nuclear reactor safety.

Dr. Parker stated that EM first needs to examine the problems it is trying to solve and then should develop a road map to solve these problems. He stated that when talking about the bigger issues, EM needs to be as specific as possible but must recognize that there is no perfect solution. He applauded Assistant Secretary Huntoon's support for the science program because nothing happens without the top level support, but noted that without funding, the top level support does not help.

Dr. Ahearne stated he agrees there is inadequate funding, but asked if this was because of Congress not allocating funds, OMB not approving the funds, or DOE not asking for the funds. Mr. Boyd replied that the budget cut for S&T this year occurred at OMB, and although Dr. Huntoon was a strong supporter, somewhere EM failed to make a strong enough argument. Dr. Ahearne noted that from his experience, if the Department stands strong on something, it will be difficult for OMB to resist. He opined that DOE failed to make a strong argument for Science funding, which he found troublesome given the strong support from the Assistant Secretary.

Dr. Ahearne asked how vocal the Department has been in saying, "we don't know how to solve *this* problem." He said if he were in Congress and heard DOE say it knew how to solve all its problems, yet wanted more money for science, he would think there was an inconsistency there. Mr. Boyd responded that Congress does not believe that the sites know how to solve all their problems, which is indicative of the continued Congressional S&T budget support. He noted that when the Office of Environmental Management was formed about ten years ago, program managers believed they had technical solutions for most of the problems. As time went by, managers realized there were unresolved issues but didn't want to publically admit it because of compliance agreements. Now, the sites face enormous pressure to do things because of compliance agreements and Mr. Boyd observed that EM has improved dramatically in the way that it works with problem holders to address unresolved technical problems as they are identified.

Dr. Bodde noted that EM may have been the victim of its own success in promoting the "Ten Year Plan" and "Paths to Closure Plan." He also observed that the linkage of science to LTS is the key to EM's success and that identification of unresolved technical LTS issues was a strong platform from which to launch the argument for more support for science.

Dr. Fryberger asked Mr. Boyd to characterize Congressional reaction to the FY 2001 budget request. Mr. Boyd stated that in budget hearings held just prior to this meeting, Dr. Huntoon was questioned extensively about the budget request which "confounded" Congress. He stated that he had recently spoken with a staff member of the Energy and Water Appropriations Committee and was certain that there is no question in Congress' mind about the value of the S&T program. Mr. Boyd stated that the final 2001 budget number for S&T would depend on Congressional spending limits versus requirements.

Dr. Fryberger asked about Congressional response to LTS issues and suggested that EM develop a science and technology road-map to support LTS. Mr. Boyd stated that the Assistant Secretary has significantly heightened Congressional awareness of LTS needs, and also agreed that EM needs to develop such a road-map to support the program.

Dr. Silver stated that he was encouraged during a recent visit to Hanford with the National Academy of Sciences because there is increasing bluntness on the part of site personnel in admitting they don't know how to solve all the problems. He noted that some personnel at Hanford are beginning to think in terms of "Geologic" time (e.g., impacts for the next 1000 years). Dr. Silver stated that this is a start but urged EM to take the long-view and establish a cadre of scientists that can come up to speed on the history of the sites and stay up to speed. He said that when considering LTS requirements, the EM program needs to have a steady base of well trained, well educated, and well equipped people who know the problems and can resolve them. He also noted that the EMSP was established to address long-term issues, but that it has been "bent" to address urgent and often near-term problems. Dr. Silver believes there is a disconnect in what the field thinks EMSP should be and what HQ thinks it should be.

Ms. Crandall noted public concern and a lack of understanding about what the science program is doing and what some of the successes have been. She complemented EM on the recent OST exhibit on the Hill and asked for better communication of EM S&T successes.

Mr. Bennett summarized the discussion to this point:

- Many believe that EM does not obtain adequate funding for its Science program because of obstacles within DOE.
- We need to know if EM is addressing the right mission and has the right people working the problem.
- We need to know why EM cannot get the customer to respond (motivate the buyer) and take advantage of innovative advancements in science.
- EM seems to be unable to sell science effectively, and Congress receives mixed messages on the need for innovative Science from Headquarters and the field.
- There may be a disconnect between the mission EM talks about, the mission which the field has, and the mission which Congress funds.

Dr. Ahearne added that an underlying part of the funding problem is that there are many areas in which EM just don't know in detail what the problems are or how to solve them. He said the fundamental purpose for basic research is to "develop knowledge you don't have," and that many of the field offices and programs will not admit that they don't know these things.

Dr. Bodde summarized the discussion, developing three pillars or "silver bullets."

1. The issue is not so much cost savings as it is the ability to get things done and the ability to admit what you do not know so you don't continue to make mistakes that have been made by continuing down a path without full disclosure.
2. EM needs a motivated, incentivized buyer.
3. Today's science needs to be linked to LTS requirements, and that mind-set needs to be understood by DOE senior management.

Dr. Adelman stated that the Science program would benefit if science information was made easily accessible to university researchers.

Dr. Fryberger noted that Science problems had been isolated during the Board discussion, but solutions had not been developed.

Mr. Bennett closed the discussion of this issue and stated that the results of the discussion would be presented to the Science Committee for consideration.

Mr. Bennett addressed the second topic, "Are we taking full advantage of available scientific resources worldwide to economically and effectively solve our science needs." To open the discussion, he introduced Ms. Elizabeth O'Malley from the Office of International Programs (IP), in the EM Office of Science and Technology.

Ms. O'Malley provided an overview briefing on the EM international program, outlining the strategy of the program and the problems it faced. She focused attention on the U.S.-Russia program, noting that it was one of many EM international programs being conducted.

Ms. O'Malley stated that the purpose of the International Program was to share EM technologies with other countries, to work with foreign scientists, and to learn if their technology successes can benefit the EM program. The strategy is to identify possible scientific opportunities with other countries, and to establish a partnership through a memorandum of cooperation. OST manages the project selection as well as the funding, consistent with U.S. foreign policy objectives. One of the other tasks is to work with the foreign travel system and with foreign visitors to help facilitate private sector deployment of innovative technologies. Ms. O'Malley noted that her office works with other DOE and Executive branch agencies to ensure that they are not duplicating projects.

Ms. O'Malley noted that the EM U.S.-Russia program is run under a bilateral agreement that was signed in 1972, with MOU's updated periodically. The program is managed through a joint coordinating committee that is supervised by Mr. Boyd. The committee meets once a year to determine what projects will be accomplished. She observed that the U.S.- Russia program was

advantageous because of Russian scientific expertise and the value for the United States in terms of dollars spent. She noted that one of the technologies being developed is the Russian pulsating pump which may be deployed at Oak Ridge this June. Ms. O'Malley provided a history of accomplishments in terms of technologies developed and deployed as a result of the program. She noted that EM currently has three proposals from the Russian Academy of Science in the area of "fractured rock" and the Vadose Zone.

Mr. Bennett asked what economic benefit has been derived from the international programs. Mr. Boyd stated that results are difficult to quantify. EM has qualitative ways to show the benefit -- it can show how things can be done a lot cheaper and better today than they could be done ten years ago, but it's almost all anecdotal. He acknowledged that EM lacked effective quantitative measures for the program. Mr. Bennett noted that in his private sector experience, it is critical to credibly quantify results in order to gain financial support for a program.

Mayor Church asked if the "Nuclear Cities Initiative" (NCI) was part of the EM International program. Ms. O'Malley responded that it was not. She stated that the NCI was run out of the DOE Nuclear Non-Proliferation Office, and indicated that she coordinated her initiatives with that office to ensure that work is not being duplicated. She stated that the budget for the EM IP over the last ten years was about $7.8 million, a relatively small amount each year. Mr. Boyd noted that in comparison to U.S. costs, that the program enabled EM to utilize the services of Russian scientists for about $5,000 per scientist annually. Mr. Boyd also noted that requirement that all work done under the EM-50 international initiative had to support the goals of the domestic EM program.

Dr. Ahearne stated that DOE is part of the Executive Branch of the Federal Government and on a national security level, it is in the U.S. Government's best interest to assist the Soviet Union resolve its environmental hazard problems, which are worse than ours. Dr. Rambaut asked if a Russian scientist could collaborate with an American University outside the national laboratory structure and apply to DOE for funding. Mr. Boyd stated that within the EM international program, research opportunities of the nature described by Dr. Rambaut were very limited. However, he noted that a new international initiative proposed by Under Secretary Moniz may open the doors for that type of opportunity.

Dr. Parker noted the absence of reports and data on the web page regarding the results of DOE's international programs. To emphasize the importance of this request, he noted the existence of a contaminated site in Russia that closely paralleled the subsurface problems EM was encountering at Hanford. Ms. O'Malley noted that some of the results of the EM-50 international programs were available in an EM "Redbook," and also said that EM was reformatting its web page which would include these reports in the future.

Ms. Crandall stated in addition to the NCI Project, there are other projects that the Nuclear Non-Proliferation Office are conducting with the Russians and asked if EM were partnering with these programs. Ms. O'Malley stated that she participated in routine coordination meetings but that it was hard to partner with DOE Offices that had larger budgets and broader charters for their initiatives.

Neither Mr. Boyd nor Dr. Huntoon were able to predict the impact of the newly created NNSA on EM's international or domestic programs. Dr. Huntoon noted that the Agency was created by Congress for a special purpose and did not think that it would want to take over EM's mission or functions. She noted, as an example, the number of facilities -- including some that currently were the responsibility of NNSA -- slated to be turned over to EM in the coming years and the resources that would be required to properly safeguard and remediate them. Her concern was that NNSA would provide funding for remediation of facilities it no longer required.
Regarding international programs, Mr. Isaacs noted the broad benefit of access to foreign research and sites where field testing was conducted, as well as the opportunity to interact with foreign scientists.

Dr. Bodde indicated that an initiative to take the EM International Program to a full RD&D status was probably premature. However, he noted that the Science Committee might at a later date pursue the issue of opportunities for field testing, validation and demonstration of technologies in the less restrictive Russian environmental setting. Mr. Bennet closed discussion of the issue.

Public Comment

Mr. Bennett asked for public comments. There were no public comments and the Board adjourned for a ten minute break.

Vote on Resolutions

Mr. Bennett gave an overview of the resolution to be presented and stated each Committee would present its finding and recommendations.

Mr. Applegate presented the resolutions for the LTS Committee.

Following a discussion on the meaning and interpretation of "physical," "non-physical," and "institutional" controls, the Board agreed to amend the first paragraph of the resolution as follows:

> "Now, therefore, be it resolved, that the EMAB Long-term Stewardship Committee recommends that the Assistant Secretary for Environmental Management implement near term steps in the process now to determine institutional and physical controls at remediated sites transferred from Federal ownership.

The first and second recommendations were amended as follows:

> "Require full consideration of the estimated life-cycle costs of remediation and long-term institutional and physical controls in order to evaluate the tradeoffs between cleanup and stewardship (i.e., the more cleanup, the less stewardship and vice versa). Such consideration should not use discount rates that have the effect of eliminating future costs from consideration."

> "Evaluate the applicability and reliability of available non-physical institutional controls, with particular attention to their effectiveness, enforceability, and permanence. The evaluation should consider controls on lands held in federal ownership and lands leased or sold to private individuals or entities."

The LTS Resolutions on Institutional Controls passed unanimously with these amendments.

The second recommendation was amended to read as follows:

> "Establish a distinct budget for long-term stewardship at Headquarters, Operations and site levels."

A lengthy discussion ensued about the meaning of the third resolution presented by the Committee regarding the status and authority of the current Long-term Stewardship Office in EM versus what might be desired. Following an extended dialogue which included statements of opinion about the degree to which DOE as an organization embraced the Long-term Stewardship mission, the third recommendation was amended to read as follows:

> "Ensure that the Long-term Stewardship Office in Headquarters has the responsibility and authority for directing policy for long-term stewardship, and for ensuring implementation and accountability in the field."

Mr. Isaacs asked if the full resolution promoted less clean-up as a cost saving measure. Mr. Applegate and Mr. Winston explained that the intent of the resolution was to highlight the issue of dealing with the cost-cleanup tradeoff without advocating either as a general rule. Mr. Harry Compton from EPA, temporarily assigned to the Federal Facilities Office in DOE, pointed out that the present technical inability to adequately clean up many facilities must enter into a cost-cleanup decision.

The resolution passed unanimously with these amendments.

Mr. Genega presented the Contracting and Management Committee Resolutions on Project Management and the Shared Savings Initiative. Both resolutions passed unanimously without amendment.

Mr. Moran presented the EM-OST Resolution on Worker Health and Safety. In his remarks, he highlighted the recommendation regarding creation of a "Heat Stress Management Development Program" and noted that he had established contact with the National Institute for Occupational Safety and Health regarding its efforts in this area. Following a minor technical amendment, the resolution passed unanimously.

In response to a question from MS. Crandall, Mr. Moran explained that the presentation given the previous day on Integrated Safety Management was a report but was not accompanied by a resolution. He noted that following a planned visit to INEEL, a report and resolution on ISM implementation would be forthcoming.

Mr. Bechtel presented the Technology Development and Transfer Committee letter on Science and Technology Performance Measures. The letter was addressed to the Board Co-Chairs and signed by Dr. Berkey. Following limited discussion, the Board determined that it would endorse and forward Dr. Berkey's letter to Assistant Secretary Huntoon.

NEW BUSINESS

Mr. Winston commended the Board Chairs and DOE on the additions to the Board, and welcomed the new members.

Ms. Crandall questioned the lack of activity of the Integration and Transportation (I&T) Committee. She stated that her understanding was that the Committee was waiting for the release of the *Paths to Closure* document and inquired about its status. She also asked if there would be future work for a Public Participation Subcommittee with the sun-setting of the Accelerating Closure Committee, because she believes there is still work to be done in this area.

Mr. Melillo explained that although no Integration and Transportation Committee meetings had been held, there has been an abundance of back ground activity occurring in an effort to establish a work plan for the Committee. He also stated that he had limited information on the release date of the *Paths to Closure* document. Mr. Bechtel added that he had recently attended a meeting with Ron Ross, the co-chair of the I&T Committee, last week to develop a Committee work plan. He noted that the Co-Chairs were monitoring the work of the Senior Executive Transportation Forum but had nothing of significance to consider at the current time.

Regarding a public participation subcommittee, Mr. Melillo noted that there may be an opportunity to reopen that committee in the future, but that the Board did not want to have committees without a mission. He noted that the EM Office of Public Accountability handles public participation issues for EM and that the Office Director had not recently requested any advice or recommendations from the Board. Mr. Winston stated that the LTS Committee has had some discussion on public outreach issues, and that all committees should be conscious of this issue. He opined that at a future date it may be necessary to convene a committee to address the issue on a board scale.

After some discussion on the optimum time for the next meeting, Board members agreed that they would mark the calendars and send them back to the EMAB staff, as customary.

Public Comment

Mr. Bennett opened the floor for public comments. There were none.

Mr. Bennett asked for comments from Mr. Melillo. Mr. Melillo stated that Mr. Doug Costle, former Co-Chair of the Board, continues to make progress in recovering from a stroke. He indicated that he would continue to keep the Board informed about Mr. Costle's progress.

Mr. Bennett thanked the members for their participation and excellent comments, and thanked the EMAB staff for their sustained work and advances in graphic techniques supporting the Board meeting. He also noted that he was very pleased with the progress the Committees have made on various issues.

On that note, the Board adjourned.

Dr. David Bodde
Chair
Environmental Management Advisory Board

Mr. Joel Bennett
Co-chair
Environmental Management Advisory Board

Mr. James T. Melillo
Executive Director and Designated Federal Official
Environmental Management Advisory Board

ATTACHMENT A

Environmental Management Advisory Board Meeting
April 13 -14, 2000
U.S. Department of Energy
Room 1E-245

Thursday, April 13, 2000

1:00 p.m. Public Meeting Opens — *David Bodde, EMAB Co-Chair*

- Welcome — *Joel Bennett, EMAB Co-Chair*
- Approve Minutes of September 22-23 1999 Meeting

1:15 p.m.	Opening Remarks	*Dr. Carolyn Huntoon, Assistant Secretary, EM*
1:30 p.m.	Budget Update	*Dan Berkovitz*
	Corporate Performance Measures	*Deputy Assistant Secretary (EM-10)*
2:15 p.m.	Worker Health & Safety Committee Report ➢ WH&S in Technology Development ➢ ISM Implementation	*Glenn Paulson, Co-Chair* *John Moran, Co-Chair*
3:00 p.m.	**Break**	
3:15 p.m.	Contracting and Management Committee Report ➢ Project Management ➢ Shared Savings	*Dave Swindle, Chair*
4:00 p.m.	Long Term Stewardship Committee Report ➢ Next Steps for Stewardship ➢ Institutional Controls	*John Applegate, Co-Chair* *Tom Winston, Co-Chair*
4:45 p.m.	Technology Development &Transfer Committee Report ➢ EM Science &Technology Performance Measures	*Edgar Berkey, Chair*
5:15 p.m.	Public Comment Period and Adjournment	

Friday, April 14, 2000

8:30 a.m.	Opening Remarks	*David Bodde, EMAB Co-Chair* *Joel Bennett, EMAB Co-Chair*
8:45 a.m.	Board Discussion	
10:45 a.m.	Public Comment Period	
11:00 a.m.	Board Business ➢ Votes on EMAB Findings & Resolutions ➢ New Business ➢ Set Date for Next Board Meeting (October 2000)	*David Bodde, EMAB Co-Chair* *Joel Bennett, EMAB Co-Chair*
11:45 a.m.	Public Comment Period	*David Bodde, EMAB Co-Chair*

Joel Bennett, EMAB Co-Chair

1 2:05 p.m. Meeting Adjourns

ATTACHMENT B

Environmental Management Advisory Board

Resolution On
The Consideration of Occupational Safety and Health in the
EM-OST Technology Development Program

April 14, 2000

Whereas, the DOE Office of Environmental Management (EM) is responsible for the largest and most complex environmental restoration program in the Nation.

Whereas, the EM Office of Science and Technology (OST) has undertaken a comprehensive research and development program to provide remediation technologies to meet the unique needs of the EM Program.

Whereas, worker safety and health is a prime concern of EM.

Whereas, while the OST Program addresses occupational safety and health more comprehensively than other federal agencies with development programs in the remediation technology sector, such is primarily focused at the demonstration phase, which is costly and time consuming.

Whereas, while OST has recently revised the technology review and advancement process, which includes safety and health considerations, such considerations are mainly subjective.

Whereas, in conjunction with the OST Program implementing a revised review process and ISM nearing full implementation there is an opportunity to advance development of "safer" technologies by OST.

Whereas, a large part of the EM environmental remediation program involves activities that expose workers to significant risks of heat stress illness.

Now, therefore, be it resolved that the Environmental Management Advisory Board recommends that the Assistant Secretary for EM undertake the following actions:

· Provide safety and health guidelines/checklists to the DOE developer community.

· Provide guidance for consideration of safety and health matters in the ASME peer review process.

· Develop more detailed guidelines for the consideration of safety and health in the Stage-Gate procedure.

- Require a Technology Safety Data Sheet (TSDS) for every technology at mid-stage review.

- Consider approaches to including occupational safety and health compliance costs in technology cost-performance data.

- Encourage the identification of “safer” technologies and dissemination of that information.

- Initiate a Heat Stress Management Development Program.

- Develop specific contract language that promotes use and/or implementation of new technologies.

ATTACHMENT C

Environmental Management Advisory Board

Recommendations and Background Information On Institutional Controls on DOE Properties

April 14, 2000

The Environmental Management Advisory Board recognizes a need to address future controls at remediated EM sites to maintain the safety of individuals affected by the sites and protect the environment with regard to future land use. The Board began to look at the need for use restrictions and controls for EM sites after the sites, or portions of sites, are "cleaned" up. In doing so they realized the importance of recognizing that future ownership and management of remediated lands will vary greatly, not only among sites, but also often within sites. The land that is currently within EM's purview falls into the following subsets:

- Federal land that will remain in Federal ownership
- Federal land that is going to be sold or given away
- Federal land that is going to be leased
- Federal land that will return to trust under tribal agreement

Because all the information to address the issues pertaining to these subsets is still being gathered, the Board in this recommendation focused on land that would be transferred out of Federal ownership after the "cleanup" and closure of the site is complete. It will continue to address the issues of the other land use scenarios in future reports.

Future use restrictions and controls for remediated EM sites need to be determined, implemented and maintained. Contingency plans for the failure of the controls also need to be developed. The Board has noted that EM has begun the process through estimating costs of remediation and long-term controls at the sites through the Integrated Planning Accounting and Budgeting System (IPABS-IS.) The Board also recognizes that there are yet many unanswered questions regarding future use and restrictions necessary for transferred lands. As more information is made available, the process to institute controls when sites are transferred will continue. To that end, the Board recommends the following as the steps in the process to determine, implement and maintain institutional and physical controls at remediated sites transferred from Federal ownership.

Resolution on

Institutional Controls on DOE Properties

Whereas, remediation plans for most Environmental Management sites include containment of radioactive and/or hazardous wastes onsite and their isolation via physical (engineered or natural) and institutional (legal and land use) controls in order to protect human health and the environment. While the effectiveness of such controls is essential to meeting legal remediation standards, their effectiveness over long periods of time is unproven as discussed in the attached background information on the use of physical and institutional controls.

Whereas, communication to future landowners, users and those affected by a failure of institutional controls can help to ensure their effectiveness, communication must include background information of the contaminants, the extent of contaminated media, types of institutional and physical controls and contingency plans if those controls fail.

Now, therefore, be it resolved, that the Environmental Management Advisory Board recommends that the Assistant Secretary for Environmental Management implement near term steps in the process now to determine institutional and physical controls at remediated sites transferred from Federal ownership. And further be it resolved that long term steps to determine institutional and physical controls be implemented as required information and resources become available. These near and long terms steps are as follows:

- Require full consideration of the estimated life-cycle costs of remediation and longBterm institutional and physical controls in order to evaluate the tradeoffs between cleanup and stewardship (i.e., the more cleanup, the less stewardship and vice versa). Such consideration should not use discount rates that have the effect of eliminating future costs from consideration.

- Evaluate the applicability and reliability of available non-physical institutional controls, with particular attention to their effectiveness, enforceability, and permanence. The evaluation should consider controls on lands held in federal ownership and lands leased or sold to private individuals or entities.

- Create an infrastructure to support LTS activities, specifically:

  a) Evaluate the capabilities of relevant public and private institutions to effectively implement and administer institutional controls over time. The evaluation should include an analysis of the ability of alternative institutions to adapt to changing conditions, ensure/attract financial support, be accountable to affected publics, and enforce institutional controls and land-use restrictions. The evaluation should also include recommendations for establishing working relationships between DOE and such institutions.

b) Require periodic review of all sites to evaluate the effectiveness of remediation decisions and institutional and physical controls, in light of technology development, changing environmental and contamination conditions, and costs.

c) Ensure that remediation and institutional controls have overlapping and/or redundant requirements to maximize the protection of human health and the environment.

d) Develop contingency plans for reasonably foreseeable failures of remediation and/or physical and institutional controls.

e) Create a publicly available information system that identifies the waste sites and their locations; the characteristics and amounts of the waste and an estimate of the area of contamination; the types of remediation and institutional and physical controls, including an assessment of their effectiveness; and contingency plans for failures of remediation and/or physical and institutional controls. The location(s) of records and a contact for additional information must be included.

f) Develop options for maintaining remediation and institutional control records for closed sites and for facilities with continuing missions at several government levels (local, state, tribal, national.)

g) Begin a training program for EM managers of contaminated sites and real property officers and others including state, tribal and local officials responsible for creation, maintenance, monitoring and enforcement of institutional controls.

ATTACHMENT D

Environmental Management Advisory Board

Resolution on
The Next Steps for Stewardship

April 14, 2000

Whereas, EM has made significant progress in recognizing the need for long-term stewardship and in developing information on long-term stewardship.

Whereas, EM is to be commended for establishing an office of Long-term Stewardship (EM-51) and including long-term stewardship among the six guiding principles for EM.

Whereas, it is critical that attention to long-term stewardship continues regardless of changes in administration.

Now, Therefore, be it resolved, the Environmental Management Advisory Board recommends that the Assistant Secretary take the following steps in the coming months to assure that long-term stewardship remains a major focus of the EM program:

· Promulgate a formal policy (that is, a DOE Order or similar document) that requires the sites to plan for and implement long-term stewardship.

· Establish a distinct budget for long-term stewardship at Headquarters, Operations and site levels.

· Ensure that the Long-term Stewardship Office in Headquarters has the responsibility and authority for directing policy for long-term stewardship, and for ensuring implementation and accountability in the field.

- Assure that relevant state, tribal and local governments are fully informed of information resources and DOE activities relating to long-term stewardship.

- Provide the general public with ready access to long-term stewardship information and activities to facilitate public participation in decisions regarding long-term stewardship.

ATTACHMENT E

Environmental Management Advisory Board

Resolution on the Development of a DOE Project Manager Career Program

April 14, 2000

Whereas, improvement of "Energy Department program and contract management" is an administration FY 2001 budget management priority.

Whereas, the challenges of successfully managing EM remediation project contracts require expertise in a variety of skills generally associated with program/project management.

Whereas, roles and responsibilities for program and contract managers are not defined or vary widely with EM Headquarters and at EM sites.

Whereas, neither DOE nor EM have developed an effective Project/Program Manager identification, selection, training, and retention program, and the absence of a career path inhibits recruitment and retention of qualified individuals for EM project/program management tasks.

Whereas, the establishment of a program/project management career path in DOE/EM willexpand the cadre of qualified managers who are capable of successfully meeting increasing contract management challenges.

Now, therefore, be it resolved that the Environmental Management Advisory Board recommends that the Assistant Secretary for EM should establish a program/project management career program which:

• Clearly define roles and responsibilities of DOE/EM program, project and contract managers.

- Encourages identification, selection, and retention of career project/program managers.

- Encourages the professional development of program/project managers through certification and other career development initiatives.

- Permits "grandfathering" of existing program/project managers who obtain appropriate certifications and/or who demonstrate prerequisite skills and knowledge.

- Holds program/project managers accountable for professional performance and rewards them for accepting additional responsibilities and risks associated with this career field.

ATTACHMENT F

Environmental Management Advisory Board

Resolution on
The Shared Savings Initiative

April 14, 2000

Whereas, the Department of Energy has demonstrated the practicality and value of "Shared Savings" in the Energy Savings Act of 1992 and the Federal Energy Management Program (FEMP) lighting application for DOE.

Whereas, the consolidation, stabilization and removal of hazardous material from EM facilities will significantly reduce Surveillance and Maintenance (S&M) costs while minimizing health and environmental hazards.

Whereas, in FY 2002 as prescribed in LCAM, responsibility for surveillance, maintenance and remediation of contaminated facilities, previously managed by other Secretarial offices will be transferred to EM.

Whereas, the EMAB Contracting and Management Committee believes that implementing a shared savings concept could accelerate consolidation, stabilization and removal of hazardous material from EM facilities without increasing projected budgets.

Whereas, Congressional legislation may be required to address the Anti-Deficiency Act and similar obstacles to implement a "Shared Savings" concept.

Now, therefore, be it resolved that the EMAB Contracting and Management Committee

recommends that the Assistant Secretary:

- Aggressively pursue adoption of the “Shared Savings” concept for near-term consolidation, stabilization and removal of contaminated facilities which require significant S&M costs.

- Aggressively pursue a pilot project to demonstrate and quantify the potential benefits to EM of a Shared Savings program in which cost savings could be applied to other high priority EM projects.

- Work with the Deputy Secretary of Energy to include the pilot in the FY 2001 budget submission.

- Prior to the pilot project, solicit input from the public sector and stakeholders on requirements for implementing a successful Shared Savings program.

ATTACHMENT G

Environmental Management Advisory Board
Letter on
Corporate Performance Measures

April 13, 2000

Dr. Carolyn Huntoon
Assistant Secretary for
Environmental Management
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, DC 20585

Dear Dr. Huntoon:

On December 14, 1999, you met with the Environmental Management Advisory Board (EMAB) Science Committee and Technology Development and Transfer Committee and asked the committees to assist the Office of Science and Technology (OST) with their effort to develop and implement science and technology based performance measures for the EM program. Subsequent to that meeting, a Review Team was formed from the committees to review OST=s plans for implementing EM=s S&T corporate measures. This letter provides the Team=s comments on this effort.

On January 31, 2000, OST provided the Review Team with the briefing, *Setting a New Course: Implementing Four Corporate Performance Measures for Science and Technology*. The Team is pleased to see that OST is moving forward to implement performance measures and that

attention is being paid to performance measurement for science and technology from high levels in EM management. However, the Team has not seen adequate progress in the development of performance measures for the other EM program offices. In September 1999, EMAB recommended that EM:

> A...refocus the definition of performance >success= from counting deployments to evaluating the *usefulness* of science and technology achievements in support of EM missions...@

The Team supports the plan to initially implement the corporate S&T performance measures on two sites as *prototypes* but urges that this does not significantly delay EM-wide implementation. In addition, in choosing the two sites, the Team believes it is essential to pick locations where a site manager will embrace the process and use it to his/her advantage to better manage the site.

The Review Team applauds the involvement from the field to develop these performance measures but is concerned that cost savings resulting from OST investments are not being reported. The Team emphasizes that this is something that needs to be addressed because it possibly adds to the vulnerability of funding for future investments.

In conclusion, the Team believes a major key to successfully implementing these performance measures is demonstrated support from you and your senior managers for the process. EM=s management team must hold the sites accountable for the quality of the data they are reporting and support the process. The goal must be to improve the process of implementing new technology. The OST program must do more than count deployments to be deemed successful. It must also show real benefits to the cleanup program, cost savings and use of advances in science and technology. Thus, the Team reiterates another recommendation from last September, to Aobtain technical expertise to facilitate further development of comprehensive and defensible EM corporate and internal performance measures.@

Our Team appreciated the opportunity to comment on OST=s plans for moving ahead with S&T performance measurement and looks forward to helping EM as it prepares to implement measures complex-wide. If you have any questions, please contact me through Jim Melillo at 202-586-4400.

Sincerely,

Edgar Berkey, Ph.D.
Review Team Chair

cc:
J. Owendoff, EM-2

J. Melillo, EM-10
G. Boyd, EM-50
D. Bodde, EMAB